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AUTHOR Heitzmann, William Ray
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ABSTRACT

Twenty-nine studies on the effectiveness of educational simulations for changing attitudes are reviewed. The dimension of affective learning is of increasing concern to history and social studies teachers. A wide range of experts, including game designers, classroom teachers, and simulation salespersons, maintain that simulation games can influence and alter the attitudes of the participants. Research findings on the significance of simulation games for affective learning vary significantly, largely due to methodological difficulties of simulations in general and to the extreme diversity of learning games. The majority of research findings indicate that simulation games have proven successful in generating positive attitudes about the particular issue a game treats, improving participants' attitudes toward learning and the school system in general, and influencing student attitudes about their own effectiveness in their environment. Some research findings, however, indicate that neither cognitive nor affective achievement are influenced by participation in a simulation game. Educators and researchers should realize that simulations are not an educational panacea but, rather, that there are many situations and instructional areas in which social studies simulations are effective. References are included. (Author/DB)

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Social Studies Simulations and Attitudinal Change:

The Research Findings

Wm. Ray Heitzmann, Ph.D.
Villanova University
Villanova, PA 19085

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BACKGROUND

Teachers of history and social science have become increasingly concerned with the dimension of affective learnings. Specifically, these teachers are interested in the affect of their lessons and units on the attitudes, values and beliefs of their students. Robert Mager, in his recent book, Attitude Toward Learning, spoke to this point in a general sense when he articulated one of the universal objectives of teachers, "the intent to send students away from instruction with at least as favorable an attitude toward the subjects taught as they had when they first arrived."[1] This interest in student's "feeling about" or "feeling toward" is certainly to be admired; it should be noted that educational games and simulations can play an important role in this area.

Today, many teachers are not only concerned with the cognitive and motivational value of simulations, which the research has clearly shown to be a major value of the technique, additionally they believe that the real payoff of this instructional approach--because of the learner's involvement--will be in the affective domain. Game designers, classroom teachers and simulation salespersons have enthusiastically suggested that simulation games can influence and alter the attitudes of the participants. Alice Kapan Gordon, Games for Growth, has stated,

> First, games can evidently be used to change attitudes about the particular issue a game treats. Second, and even more encouraging, experience with educational games can apparently improve participants' attitudes toward learning and the school system in general. Third, games appear to

influence the student's attitude about his own effectiveness in his environment.[2]

While studies of the validation of attitudinal change are limited in terms of number and quality, the initial studies do give an idea of the direction of the research findings.[3] Clearly the potential of this instructional method deserves close scrutiny because of the lack of success with other methods of attitudinal change.

RESEARCH FINDINGS: POSITIVE RESULTS

Paul DeKock, with a game he developed entitled Sunshine, an educational simulation of "current racial problems in a typical American City," concluded, "participating in Sunshine does change students. Their attitudes are affected."[4] John Newman, using the same game in a different setting, found "the simulation was concluded to be an effective method of generating more positive attitudes toward the subject of ethnic studies."[5]

Several researchers, using variations of the Inter-Nation Simulation, have examined attitudinal change. H.R. Targ, with elementary students, discovered the students to be more tolerant and positive in their beliefs following the simulation.[6] Cleo Cherryhomes reported similar results with high school students using a little different version of the same game in two studies. Cherryhomes, who conducted his studies over a decade ago (a long time in the history of educational simulations and learning games), was one of the first persons to examine the affective aspects of the technique. Working with a later version of this simulation, Robert Lee and Arlene O'Leary concluded that the attitudes of students toward international relations were more realistic as a result of involvement in the simulation. This was only true of students originally

low on a "trust in people" scale.[8]

Samuel Livingston has conducted an interesting line of inquiry regarding simulations and attitudinal change. Following the use of the game Ghetto, players' "attitudes were significantly more favorable to the poor after they played the game than before."[9] At a later date, using Democracy, the attitudes of junior high students were found to be more positive toward the practices of politicians because of the simulation.[10] While in additional studies he found similar results,[11] he called the research of himself and others into question when as a result of a delayed post-test (four months after the game) he found no difference between the experimental and control groups. This finding has led to the speculation that there may be little stability of attitudinal change as a result of participating in simulations.[12] W. Harvey Hegarty summarizes this situation nicely,

> Future efforts in this area need to address the question of whether or not these changes affect attitudes and activities outside the classroom and more importantly how the changed values are affected over time as they are moderated by a myriad of other change forces and life experiences.[13]

Obviously, additional study in this area is needed.

Other studies with favorable results have been conducted in all areas of history and social studies teaching. Eugene Baker found that his pre-Civil War simulation resulted in "a more favorable attitude toward centralized and efficient policy-making procedures."[14]

Sarane Boocock concluded that Democracy increased the players' feelings of political efficiency.[15] Karen Cohen, using the same game a few years later, obtained results similar to that of Boocock.[16] In the same area of political science, Rex Vogel in a recent study found

that playing Metro Government also increased the players' feelings of political efficiency.[17]

In the area of career education, Dorothy Rothbart engaged students in the Lester Hill Office Simulation finding "affective learnings were produced in students of varying backgrounds and experiences."[18] Likewise, participants who played Life Career were found by Boocock to have changed feelings.[19]

The validity of an economics simulation, Consumer, was studied by C. Raymond Anderson using twelfth graders. In an important study he discovered "simulations are better able to produce behavioral changes than conventional classroom techniques."[20]

Using the popular simulation Ghetto, Herbert Bilick found that "positive change was evident."[21] Also studying attitudes toward race and racism, Thomas Chapman, using Starpower, obtained results among participants showing "significantly more positive attitudes toward blacks."[22]

Additional studies lend considerable support to the theory that educational simulations and learning games can serve as effective methods of altering attitudes. However, it should be noted some studies have produced negative findings.

RESEARCH FINDINGS: NEGATIVE RESULTS

Typical of these findings are the doctoral studies of Juan Lovelace and James Elsnes. Lovelace concluded in his study, entitled "The Use of a Social Simulation Game in an Attempt to Modify White Suburban Adolescent's Attitudes Toward Blacks," that "no statistically significant differences were found."[23] Elsnes states "it would thus seem that this simulation game had no impact on student cognitive achievement or on attitude toward international cooperation."[24] Louise Lyons (1973), Dale

Garvey and William Seiler (1966), William Rhett (1973) and Robert Alley and Stephen Gladhart (1975)[25] similarly found no differences between treatment and control groups. Unfortunately, most of the problems stemming from the confusing and contradictory research findings result from methodological difficulties of simulations in general.

RESEARCH PROBLEMS AND PITFALLS

The diversity of learning games and educational simulations and serious research methodology pitfalls have contributed to the present situation. Emmett Guise succinctly summarizes one of the major problems.

> A study of the literature revealed that research in the area was largely idiosyncratic, non-replicable, and characterized by a considerable amount of conceptual confusion, especially in the area of definition and design. No general design model for educational simulation gaming was found to exist.[26]

The other major difficulty involves two threats to the validity of the research: innovation effect and the experimentor effect. That is, frequently simulations matched against conventional or traditional methods (lecture) gain the effect because of the novelty of the approach; likewise teachers and/or researchers coordinating the simulation consciously or unconsciously favor their research hypothesis that simulations do produce attitudinal change. That these may be serious indictments can be seen from the fact that most simulations are matched against traditional techniques; Otto Heinkle reported attitude change greater for those who played Napoli "that those of a control group taught by conventional methods."[27] Similarly most of the research has been conducted by an experimentor who both directed the simulation and taught the control

group(s).

In view of the above one must seriously question some research results such as the following:

> Although the findings of the present study provide some support for the hypothesis that participation in SIMSOC leads to attitudes of greater social awareness and concern, it is difficult to assess the practical significance of these results since the differences are only marginally significant.[28]

THE FUTURE

In the last few years the volume of research in this field has expanded considerably; important studies have been conducted by teachers, game designers, professors and doctoral candidates. At this point it seems important not only that the quantity of research continue to expand but the quality of the studies improve. Unfortunately, many of the reported studies are replete with threats to their validity; unassessed treatments, lack of randomization, novelty, halo and experimenter effect and lack of replication are some of the problems that characterize the field. Avoiding methodological pitfalls and the systematizing of simulations as the research continues will eliminate some of the confusion and contradiction in the field; the collection, critical examination and dissemination of research studies will contribute to the development of this instructional strategy.

While it is true some studies have found simulations do not affect attitudes, the majority of the studies reflect an opposite finding.[29] Teachers should not be dissuaded from using and experimenting with simulations. Anyone who has conducted, played or observed a good simulation can feel that electricity of involvement learning. The fact

that some areas of field, such as the use of games as data gathering devices and the value of the post-game debriefing, are just beginning to be examined adds to the excitement of the field.

The failure of educators to find a consistently valid technique to contribute to changing attitudes has led to the experimentation with simulations. With reflective use of simulations--analyzing at what time, with what students, under what financial constraints, and with what objectives--attitudes can be changed and will no doubt result in the discovery that there are many situations and instructional areas in which social studies simulations are effective.

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